

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as currently amended and in light of the following discussion, is respectfully requested.

Claims 1-6 and 13-17 are currently pending. The present amendment amends Claims 1-5 and 13, and cancels Claims 7-12 and 18-26 without prejudice or disclaimer. The changes to the claims are supported by the originally filed application and do not add new matter.

In the outstanding Office Action, Claims 1, 4-6, 13, 15, and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ahn et al. (U.S. Patent No. 6,531,945, hereinafter “the ‘945 patent”) in view of Masuda et al. (U.S. Patent No. 6,791,444, hereinafter “the ‘444 patent”). Claims 2 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘945 patent in view of the ‘444 patent, and further in view of Ott et al. (U.S. Patent No. 6,614,093, hereinafter “the ‘4093 patent”). Claims 3 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘945 patent in view of the ‘444 patent, and further in view of Murata et al. (U.S. Patent No. 6,535,093, hereinafter “the ‘5093 patent”).

Initially, the Office Action responded to the arguments filed on February 4, 2005, and Applicant respectfully disagrees in several regards with the Response to Arguments provided in the Office Action for the reasons set forth below.

First, the Office Action appears to suggest that Applicant improperly added “cut by a natural process or by a tool” to Webster’s very first definition of groove. This is not the case. As evidenced by Appendix 1, Webster’s very first definition of groove does indeed state “a long, narrow furrow or hollow cut in a surface with a tool.”¹ The Office Action provided an alternate definition, according to Merriam-Webster’s, which defines a groove as “a long narrow channel or depression.” However, Applicant respectfully submits for the record that the contention in the Office Action that “cut by a natural process or by a tool” does not figure

¹ Webster’s New World College Dictionary, 4th edition, p. 627, 2000.

in the definition of groove is irrelevant since the '444 patent does not even teach the groove defined as "a long narrow channel or depression." This definition recites a channel or depression. This is consistent with the claimed groove, as represented in the non-limiting embodiment of Fig. 4B, for example. However, both a long narrow channel and a long narrow depression impart an opening along the length axis. Absent an opening, one has a cylinder, which is not the same as a groove. The '444 patent discloses a clearance distance between adjoining windings of conductive wire which, as illustrated in Figs. 5-8 of the '444 patent, for example, is a closed cylinder that is not consistent with being a groove. Nevertheless, in the spirit of moving prosecution forward in the present application, as discussed below, Claim 1 has been amended to clarify Applicant's invention and no longer recites a "groove."

Second, the Office Action asserts regarding Claim 13 that the functionality is not believed to be altered by the use of a single substrate, rather than a plurality of stacked substrates, insulating the U-shaped conductor on all sides. The structure avoids the need to process the single block as in the '945 patent where drilling or etching is used in combination with filling in the hole produced by the drilling/etching. In the '945 patent, a failure to make a continuous contact in the hole would result in an inoperative coil. Moreover, Applicant respectfully submits that whether or not functionality is altered does not matter since structurally, the use of a *single* substrate does not meet the *plurality of substrates* "each having U-shaped conductor corresponding to three sides of plural rectangular helical coils" recited in Claim 13.

In response to the rejection of Claims 1 and 4-6 under 35 U.S.C. § 103(a), Claim 1 is amended to recite, inter alia, "a plurality of alternating individual sheets of conducting and insulating layers forming a stack wherein the conducting layers are solid and processed to be U-shaped" and "an embedding material filled in an area between legs of the U-shaped

conducting layers,” which finds non-limiting support in the originally filed application, for example in Claim 1 and in Figs. 1A, 2A, 2B, 5C, 9A, and 10A.

Applicant notes that the Office Action asserts that the ‘945 patent teaches a stacked structure based on elements 210 and 220. It is respectfully submitted that reading a set of three distinct components as U-shaped, as in the Office Action which apparently sees the conjunction of a pair of conductive posts 210 and one conductive segment 220 to be a “conductor,” amounts to a distinct teaching. In particular, Applicant respectfully submits that the proposed conjunction of elements lacks the integrity of a “solid” conductor that is, without additional combination with another conductor, U-shaped. Applicant further notes that the ‘945 patent does not teach any insulting *layers*, but merely has homogeneous material all around the conductive posts.

However, in the spirit of moving prosecution forward, Claim 1 was amended to more specifically highlight these features, and, in particular, the stacking of conducting and insulating layers onto each other, by reciting “a plurality of alternating individual sheets of conducting and insulating layers forming a stack wherein the conducting layers are solid and U-shaped” and “an embedding material filled in an area between legs of the U-shaped conducting layers.” Applicant notes that the Office Action has been made final, but respectfully requests that this amendment be entered because it is not believed to entail a new search since the Examiner has already search beyond U-shaped conductors to include multiple conductors which jointly form a U-shape and since the amendment is mere rephrasing.

In response to the rejection of Claims 13, 15, and 17 under 35 U.S.C. § 103(a), Applicant respectfully requests reconsideration of the rejection for the reasons set forth below.

The outstanding Office Action asserts with respect to Claim 13 that the '945 patent teaches "a plurality of U-shaped conductors embedded within a substrate; the substrate insulating between each U-shaped conductor." However, this does not teach or suggest "a stacked core substrate formed by stacking a plurality of core substrates, *each core substrate having U-shaped conductor corresponding to three sides of plural rectangular helical coils*," as recited in Claim 13. The '945 patent discloses a plurality of conductive posts, but only a single substrate 110 (col. 1, lines 42-45) and thus even if, as discussed above, functionality were not affected by this different structure, the '945 patent does not teach the claimed structure, which requires "a plurality of core substrates, *each core substrate having U-shaped conductor corresponding to three sides of plural rectangular helical coils*."

The outstanding Office Action does not assert that the '4093 and '5093 patents disclose the aforementioned elements not taught by the '945 and '444 patents. Accordingly, the combination of elements fails to disclose the same positively recited limitation not taught by the references individually. Thus, the subject matter of amended independent Claim 1 and Claim 13 is not rendered obvious and Claims 1 and 13 and dependent Claim 4-6, 15, and 17 are patentable over the applied references. Specifically, the cited references do not teach "a plurality of *alternating individual sheets of conducting and insulating layers forming a stack* wherein the conducting layers are *solid and processed to be U-shaped*" and "an embedding material filled in an area between legs of the U-shaped conducting layers," as recited in amended independent Claim 1 and "a plurality of core substrates, *each core substrate having U-shaped conductor corresponding to three sides of plural rectangular helical coils*," as recited in Claim 13. It is therefore requested that the outstanding rejection of Claims 1, 4-6, 13, 15, and 17 be withdrawn.

In response to the rejection of Claims 2, 3, 14, and 16 under 35 U.S.C. § 103(a), the outstanding Office Action does not allege that the '4093 and '5093 patents disclose the

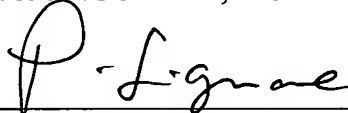
aforementioned elements of independent Claims 1 and 13 not taught by the '945 and '444 patents. Accordingly, the combination of elements fails to disclose the same positively recited limitation not taught by the references individually. Thus, the subject matter of Claims 2, 3, 14, and 16 is not rendered obvious and Claims 2, 3, 14, and 16 are patentable over the applied references. It is therefore requested that the outstanding rejection of Claims 2, 3, 14, and 16 be withdrawn.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-6 and 13-17 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

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